

## ABSTRACT

The invention relates to a method and a device for measuring a gas consumption by means of a gas meter (1). A gas meter (1) with thermal mass flow sensor (1a) for determining mass flow signals ( $S_M$ ) and with a calibration as energy meter for outputting energy value signals ( $S_E$ ) is known. According to the invention, a gas type is determined by the gas meter (1) insofar as combustible and non-combustible gas mixtures (3) are differentiated. The gas meter (1) is operated, in the case of a non-combustible gas mixture (3), with calibration in mass or standard volume units (l/min) and, in the case of a combustible gas mixture (3), with calibration in energy units (kWh).

Embodiments concern inter alia: measurement of a gas parameter ( $\lambda$ ,  $\alpha$ ,  $c$ ,  $\eta$ ) of the gas (3) for determining the gas type; gas quality sensor (1a) with an identical construction to thermal flow sensor (1a); measuring intervals lengthened in the case of non-combustible gas (3) and shortened in the case of combustible gas (3). Advantages are inter alia: reliable energy measurement because of automatic differentiation between non-meterable gas (3) and high-quality useful gas (3); detection of manipulation attempts; and automatic heat value tracking even without heat value measurement.

(Fig. 1)